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EXAMINER

MINSKEY, JACOB T

ART UNIT

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1791

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,326	Applicant(s) LAHR ET AL.	
	Examiner JACOB T. MINSKEY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 4,5 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: In the Description of the Preferred Embodiment section of the instant specification, page 4 line 10, the distance of 1.00 inch is followed by "(2.54mm)" which leads to believe that the values are given as equivalents. The examiner recommends changing the "mm" to – cm—or other desired conversion.
2. Also in page 4 line 15, the instant specification states "the range of approximately 0.060 inches" without stating an upper or lower boundary to the range. Appropriate correction is required.

Claim Objections

3. Claims 4 and 5 are objected to because of the following informalities: Both claims refer to the first gaps in "step (a)". Step (a) in the prior claim machines a region into the plate, but there is no mention of a gap. For the purpose of continued examination, the examiner is presuming that the gaps refer to the gaps created in step (b). Appropriate correction is required.
4. Claim 11 is objected to because the first word "In" makes it unclear if the claim is for an apparatus or for a method. For the purpose of further examination the Examiner is removing the word "In" and examining the claim as an apparatus claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Line 12 of claim 1 states “range of approximately 0.060 inches.” There is neither an upper or lower boundary provided for the range, making the claim indefinite.

8. The same cause of rejections is in line 2 of claim 4 and line 13 of claim 11, and claims 2-10 are dependent on claim 1 and claims 12-13 are dependent on claim 11.

9. Claims 1-4 and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Regarding these claims, all distance values are cited in multiple units of measurement that are not equivalent. For example in line 12 of claim 1, 0.060 inches and 15.24 mm are not equivalent values. It is unclear what values are the claimed inventions.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 14-17, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Metz et al, USP 6,382,943.

13. Regarding claim 14, Metz et al teach a tire mold (column 1 line 5) comprising: a plurality of plates abutting in side-by-side relation (see figures 1, 3, and 6 and column 2 lines 55-63) across a tread arc (ring back, item 12 see figures 1, 3, and 6 and column 2 lines 55-63) and extending over at least a portion of a circumference of the tire mold (see figures 1, 3, 5, and 6); and a plurality of circumferentially extending gaps (figure 6 item G) formed along radially inner portions of the abutting plates and dimensioned to provide venting of air during molding while precluding rubber penetration therein under molding pressures and temperatures (see figures 5 and 6 and column 3 lines 29-40).

14. Regarding claim 15, Metz remains as applied in claim 14 and further teaches that radially inner portions of the plates are machined to form a tread configuration (see figure 6).

15. Regarding claim 16, Metz remains as applied in claim 14 and further teaches that the plates are annuli that extend about the entire circumference of the mold (see figure 3 and column 2 line 47).

16. Regarding claim 17, Metz remains as applied in claim 14 and further teaches that at least one pin interconnecting the plates in side-by-side relation (bolt, item 51, figure 5 and column 3 line 10).

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17. Regarding claim 19, Metz remains as applied in claim 14 and further teaches that the plurality of plates are divided into first and second portions across the tread arc to form a clamshell (mold upper and lower half, column 3 lines 11-13).

18. Regarding claim 20, Metz remains as applied in claim 14 and further teaches that the plurality of plates are divided in arcuate segments (as described by the cylindrical tread forming ring in column 1 lines 44-65).

19. Claim 18 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Metz et al, USP 6,382,943.

20. Regarding claim 18, Metz remains as applied in claim 14 and while Metz is silent on the thickness of the plates (insert members, item 26), Figure 3 presents the mold as claimed with a plurality of insert members (item 26) completing the circular mold. In figure 3, Metz teaches a mold with the majority of the plates have substantially the same thickness, as shown by the arrangement of the insert members (Item 26).

21. Alternatively, it would have been obvious to one of ordinary skill in the art at the time of the invention that to create inserts of the same size for placement in the mold for the benefit of the faster, more efficient, and easier manufacturing costs of producing the many inserts needed at the same size.

22.

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

25. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

26. Claims 1-8, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayata USP 4,691,431.

27. Regarding claim 1, Hayata teaches preparing a plurality of plates which will define an interior tread pattern within a tire mold (column 1 lines 48-55), said plates having an inner predetermined radius and an outer predetermined radius (see figures 2-4 and column 3 lines 59-63), comprising the steps of:

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a) machining at least one discrete region to a shallow depth on at least one side of the plates from its inner radius part way toward its outer radius (column 3 lines 31-63),
b) stacking and securing the plates together and thereby producing first gaps at the discrete regions between the surfaces of adjacent plates, the gaps (item 3) extending outward from the inner radius (column 1 lines 48-60 and figures 1-4 and 9),
c) forming second gaps (vent groove, item 18 and vent holes item 19 column 3 lines 25-30) at a depth and width greater than the first gaps and in a predetermined alignment to the first gaps in the outer full thickness region of the plates (column 2 lines 52-54), to form vent passages between adjacent plates and extending from the first gaps to the outer radius of the plates, and thus venting outward through the stacked plates to the back of the mold (described in column 2 lines 38-64).

28. Hayata explicitly teaches all of the above limitations, but does not explicitly teach that the vent passages are in a depth range of approximately 0.060 inches (15.24 mm). Hayata teaches how to form the grooves and given an example which has grooves at a depth of .1 mm (column 5 line 5).

29. It would have been obvious to one of ordinary skill in the art to optimize the size of the vent groove, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235). One would have been motivated to adjust the size of the vent passage for the benefit of producing a vent passage that would not allow the passage of material, but still allow the air in the system to be removed.

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30. Regarding claim 2, Hayata remains as applied in claim 1 and further teaches that during step (a) the discrete regions are machined to a depth in the order of 0.002 to 0.008 inches (5.08 to 22.86 mm) (vent passage is .1mm which is equivalent to 0.0039 inch, column 5 line 5).

31. Regarding claim 3, Hayata remains as applied in claim 1 and further teaches that the majority of the plates are typically about 1.000 inch (2.54 mm) or less in thickness (.1-3 mm, column 4 line 4).

32. Regarding claim 4, Hayata remains as applied in claim 1 and further teaches that during step (a), the first gaps are machined in the range of approximately 0.004 inches (10.16 mm) in depth (vent passage is .1mm which is equivalent to 0.0039 inch, column 5 line 5).

33. Regarding claim 5, Hayata remains as applied in claim 4 and further teaches that during step (a), the first gaps extend from the inner radius toward the outer radius for approximately 1.00 inch or less. Hayata teaches that the all the desired dimensions of the tire groove is entered into a CAD (column 3 lines 31-63).

34. It would have been obvious to one of ordinary skill in the art to optimize the depth of the tread gap, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235). One would have been motivated to adjust the depth of the tread gap for the benefit of producing a tread with the desired dimensions without need of further machining or work to adjust the shape of the tread.

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35. Regarding claim 6, Hayata remains as applied in claim 1 and further teaches that during step (b), the plates are stacked one upon the other over alignment pins (fixing bolts, column 2 line 63).

36. Regarding claim 7, Hayata remains as applied in claim 6 and further teaches that the step (b), the alignment pins have threaded ends receiving threaded flathead fasteners when the full complement of plates is assembled (positioning notch, item 4 column 3 line 27).

37. Regarding claim 8, Hayata remains as applied in claim 1 and further teaches that the plates are stacked and joined as two separate cooperative parts of a clam-shell mold (upper and lower mold half, column 3 lines 14-17).

38. Regarding claim 10, Hayata remains as applied in claim 1 and further teaches that the interior radius edges of the assembled plates are engraved with the pattern of a tire tread to be molded on a tire placed within the mold (column 3 lines 31-63).

39. Regarding claim 11, Hayata teaches a mold for the formation of tread patterns on tires (column 1 lines 48-55), a venting construction for passing gases to the mold exterior as the mold is filled with heated and unvulcanized rubber (column 3 lines 25-30), said mold comprising a plurality of mold sections (upper and lower mold half, column 3 lines 14-17) each including a plurality of arcuate or annular plate-like parts assembled and secured face to face in a stack (column 1 lines 48-60 and figures 1-4 and 9), the parts having substantially common inner and outer radii (as shown in figures 1-4), the parts having a first set of machined regions in a minor portion of their faces defining a first set of gaps between adjacent plates of the assembled plate-like parts

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extending outward from the inner radius (column 3 lines 31-63), the plurality of plate-like parts also having a second set of machined regions adjacent to and opening into the radially outward edges of the assembled plate-like parts defining radially extending vent passages between adjacent plates (vent groove, item 18 and vent holes item 19 column 3 lines 25-30) extending from the first gaps to the outer radius of the plates (see figure 3), thereby providing outward venting of the stacked plates to the back of the mold (described in column 2 lines 38-64), and the radially inward edges of the assembled plate-like parts forming a surface having at least a portion of a tire tread mold formed thereon (figures 1-4 and column 5 lines 15-17).

40. Hayata explicitly teaches all of the above limitations, but does not explicitly teach that the vent passages are in a depth range of approximately 0.060 inches (15.24 mm). Hayata teaches how to form the grooves and given an example which has grooves at a depth of .1 mm (column 5 line 5).

41. It would have been obvious to one of ordinary skill in the art to optimize the size of the vent groove, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235). One would have been motivated to adjust the size of the vent passage for the benefit of producing a vent passage that would not allow the passage of material, but still allow the air in the system to be removed.

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42. Regarding claim 12, Hayata remains as applied in claim 11 and further teaches that the first set of machined regions has a depth of substantially 0.004 inch (vent passage is .1mm which is equivalent to 0.0039 inch, column 5 line 5).

43. Regarding claim 13, Hayata remains as applied in claim 11 and further teaches that the depth of the first set of machined regions being in the range of approximately 0.002 to 0.008 inches (5.08 to 22.86 mm) (vent passage is .1mm which is equivalent to 0.0039 inch, column 5 line 5).

44. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayata USP 4,691,431 in view of Jachowsky, USP 5,261,804.

45. Regarding claim 9, Hayata remains as applied in claim 1, but does not explicitly teach that the plates are stacked and joined as discrete parts of a segmented mold.

46. In the same field of endeavor of molding tire treads, Jachowsky teaches mounting the partial profile segments (column 2 line 13-30, and figures 1 and 2) for use in a segmented tire mold (described in column 3 lines 52-68).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB T. MINSKEY whose telephone number is (571)270-7003. The examiner can normally be reached on Monday to Friday 7:30-5:00 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/
Supervisory Patent Examiner, Art
Unit 1791

JTM